UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,939	01/09/2001	John W. Cole	FIS920000168US1	6746

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EXAMINER
PHILLIPS, HASSAN A

ART UNIT	PAPER NUMBER
2151	7

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.**	**Applicant(s)**
	09/756,939	COLE, JOHN W.
	Examiner	**Art Unit**
	Hassan Phillips	2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed on February 20, 2004.

Drawings

1. The examiner has received and considered the amendments to the Specification to include reference signs pertaining to the drawings. The examiner agrees that the drawings are now supported fully by the specification and therefore has withdrawn the objection to the drawings.

Response to Arguments

1. Applicant's arguments filed February 20, 2004, have been fully considered but they are not persuasive.

Applicant argues that Vahalia does not teach, disclose, or suggest a ferris-wheel queue. Applicant then defines the ferris-wheel queue as:

    a) A queue that allows multiple processes to have access to the queue in an interleaving fashion.

Examiner respectfully submits that Applicant has misinterpreted the prior art of record. Regarding applicants' argument, the method taught by Vahalia specifically discloses:

a) A queue that allows multiple processes to access the queue in an

interleaving fashion, (col. 18, lines 46-49).

Thus, making the queue disclosed by Vahalia a ferris-wheel queue as defined by

the applicant.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-15, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Vahalia et al. (hereinafter Vahalia), U.S. Patent No. 6,298,386, and further in view of

IBM Technical Disclosure Bulletin Vol. 40, No. 5, May 1997.

3. In considering claims 1, 5, 10, 11, 13, 15, Vahalia discloses a method of

transferring incoming concurrent sets of data from sending transport systems to

requesting transport systems comprising the steps of:

a) Retrieving messages (sets of data), (col. 18, lines 44–46);

b) Transferring sets of data to a receiving queue (col. 19, lines 62-65);

c) Queuing messages (sets of data) in a receiving queue by dividing the

messages into words (blocks of data), storing words in available storage

locations, and having associated data by using indexes to associate the words with a corresponding storage location (col. 18, lines 61-67, and col. 19, lines 1-10);

d) Sending the sets of data by transmitting the associated data in the storage locations to a requesting transport system, and indicating that the storage location is available for storing other blocks of data (col. 19, lines 23-33).

Although the disclosed method of Vahalia shows substantial features of the claimed invention, it fails to explicitly disclose:

a) Querying a receiving queue for available data storage locations, and signaling a process to transfer data to the storage locations.

Nevertheless, in a similar field of endeavor, an IBM Technical Disclosure Bulletin discloses a queuing mechanism for bi-processor communication comprising:

a) Querying memory for available storage locations (pg. 171, second bullet);

b) Signaling a process to transfer data to the storage locations (pg. 171, second bullet).

With the knowledge of a method such as disclosed by the IBM Technical Disclosure Bulletin, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Vahalia (col. 19, lines 62-63), by employing a means for querying memory for available storage locations before allocating memory. The motivation to do so would have been to verify that there are enough storage locations, for the data being allocated, to avoid the data being rejected for storage, or worse case, the data being lost.

4. In considering claims 2 and 7, see Vahalia, col. 1, lines 43-45. Also, see Fig. 18.

5. In considering claims 3 and 8, see Vahalia, col. 15, lines 7-13.

6. In considering claims 4 and 9, see Vahalia, col. 15, lines 7-10, and 24-26.

7. In considering claim 6, see Vahalia, col. 19, lines 23-28.

8. In considering claim 12, see Vahalia, col. 19, lines 13-28. It is inherent that, indicating to the requesting transport system sets of data are ready for sending, is done by the code thread checking whether or not the collector queue is empty.

9. In considering claim 14, see Vahalia, col. 7, lines 15-18.

10. Claims 16, 17, 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahalia et al., in view of the IBM Technical Disclosure Bulletin, and further in view of Jiang et al., (hereinafter Jiang), U.S. patent 6,614,441.

11. In considering claims 16 and 20, although the disclosed methods of Vahalia in view of the IBM Technical Disclosure Bulletin, shows substantial features of the claimed invention, they fail to explicitly disclose:

a) A circular two-dimensional array.

Nevertheless two-dimensional arrays, constructed as circular arrays, were well known in the art at the time of the present invention and were used for a variety of applications. Jiang teaches of method for processing video data in a computer system comprising:

a) Utilizing a two-dimensional array, constructed as a circular array, for

storing video data of different video formats, (col. 5, lines 40-50).

With the knowledge of a method such as disclosed by Jiang, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Vahalia and the IBM technical disclosure bulletin, by employing a two-dimensional array, constructed as a circular array of specific message structures. This would have provided a more efficient and secure means for interleaving the data generated by multiple processes, Jiang, col. 5, lines 45-50.

12. In considering claim 17, Jiang further teaches performing a round-robin search in the first dimension of the array and maintaining associated control variables for all video data. See col. 6, lines 11-51. The motivation for modifying the teachings of Vahalia and the IBM technical disclosure bulletin would be the same as that mentioned in the consideration of claim 16.

13. Claims 18, 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahalia et al., in view of the IBM Technical Disclosure Bulletin, in view of Jiang, and further in view of Palatucci et al., (hereinafter Palatucci), U.S. patent 4,658,359.

14. In considering claim 18, although the disclosed methods of Vahalia in view of the IBM Technical Disclosure Bulletin in view of Jiang, shows substantial features of the claimed invention, they fail to explicitly disclose:

    a) A software generated circular buffer.

Nevertheless two-dimensional arrays, constructed as circular arrays, including software generated buffers were well known in the art at the time of the present invention and were used for a variety of different applications. This is exemplified by Palatucci who teaches a method for managing resources in an avionics communications system comprising:

    a) A buffer, constructed as a two-dimensional array, generated by software,

        (col. 5, lines 46-52).

With the knowledge of a method such as disclosed by Palatucci, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Vahalia, the IBM technical disclosure bulletin, and Jiang, by employing a software generated two-dimensional array, constructed as a circular array of specific message structures. This would have provided a more manageable buffer Palatucci et

al. col. 5, lines 52-64, capable of providing a more efficient and secure means for

interleaving the data generated by multiple processes, Jiang, col. 5, lines 45-50.

15. In considering claim 19, Jiang further teaches performing a round-robin

search in the first dimension of the array and maintaining associated control variables

for all video data. See col. 6, lines 11-51. The motivation for modifying the teachings of

Vahalia and the IBM technical disclosure bulletin would be the same as that mentioned

in the consideration of claim 18.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Vahalia et al. U.S. Patent No. 6,298,386 discloses a queue for transferring

concurrent sets of data.

IBM Technical Disclosure Bulletin Vol. 40, No. 05, May 1997 discloses a queuing

mechanism for bi-processor communication.

Jiang et al. U.S. Patent No. 6,614,441 discloses a two dimensional array

constructed as a circular array, used to store video data.

Palatucci et al. U.S. Patent No. 4,658,359 discloses a software generated two-

dimensional array used in managing resources in a complex avionics communications

system.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hassan Phillips whose telephone number is (703) 305-8760. The examiner can normally be reached on M-F 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

HP/
4/26/04

FRANTZ B. JEAN
PRIMARY EXAMINER